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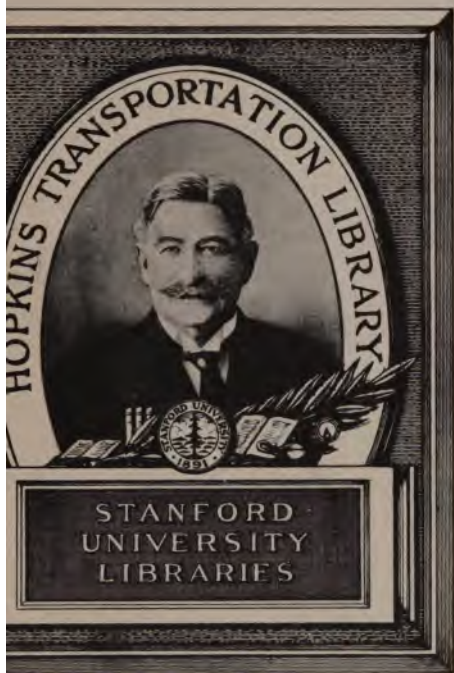
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PRICE ONE PENNY.

THE HISTORY OF THE South-Eastern Railway

By G. A. SEKON.



SIR MYLES FENTON.

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HISTORY OF THE SOUTH-EASTERN RAILWAY.

By G. A. SEKON.

THAT a comparatively small railway like the South-Eastern should possess a history which contains many incidents of a very varied character, as it does, is most remarkable. The line has been opened not much more than fifty years, yet during the whole of that period it has always been strongly before the public in some way or another. Its lately-resigned chairman (Sir Edward Watkin), so well known as the "Railway King," is generally known as a good fighter, but the Company has always, more or less, been at variance with its neighbours. Then the public has much to do with the line. It serves a populous suburban district in the South of London, and touches most of the holiday resorts patronised by Londoners. To the uninitiated the hidden springs that govern things are hard to understand; the public only see the results and know little of the inner working—the why and wherefore. These arise from many causes, small in themselves but great for weal or woe in their consequences.

So many years ago a petty private quarrel between a railway magnate and the proprietor of a daily journal was the cause of much unjust criticism and unfounded complaints being published about the S.E.R. Has it ever struck the average reader of the daily papers that most complaints, no matter on what subject, appear anonymously? signed, say, "Another Victim," or "Business Lost."

Recently some such letters appeared in an evening paper about the S.E.R., and only one of the letters gave the writer's name and address. The S.E.R. manager with commendable zeal caused an official to call upon this gentleman to learn the causes of his complaint against the railway, and these resolved themselves into two. 1. That he travelled six years ago in a carriage (2nd class) that might have been cleaner, and, 2, that once when a neighbouring railway company sent his luggage astray he thought the S.E.R. ought to find it for him, as both the lines used the station from which the missing package disappeared.

If these are the grounds of complaint of one who does not

by Stephenson, and ran on four wheels, each of four feet diameter. The use of a locomotive on the railway was discontinued in 1839 for some years. The S.E. Railway still preserves this antique specimen at their Ashford works, and exhibited it at Darlington in 1875 and Newcastle in 1881. In 1840 this railway was leased to Messrs. Nicholson and Baylis, who do not appear to have had any success with it, as it was closed altogether shortly afterwards, and does not appear to have been re-opened till 1844, when the S.E. connected Canterbury with their system. In 1854 the S.E. bought the Canterbury and Whitstable Railway for £38,670, and so its career as a railway company ceased. It is now worked by locomotives.

Another ancient railway now merged into the S.E. is the London and Greenwich, famous as being the first railway constructed in the Metropolis. This project met with great ridicule from leading magazines and newspapers. *John Bull*, one of the latter, was particularly notorious for its violent depreciation of the undertaking. The Act of Parliament authorising the construction of this railway was passed May 17th, 1833, and the line was opened to Deptford 14th December, 1837, and to Greenwich in December, 1838. It is $3\frac{1}{2}$ miles in length, and is built on 878 brick arches, at a cost of £733,333. The company expected to receive a considerable revenue by fitting up these arches and letting them as houses, but the experiment did not appear to answer, as but a few of the arches were so fitted. The revenue of the company was expected to be further augmented by the toll charged for using the road constructed by the railway company at the base of their line for vehicular and foot traffic.

When the line was first opened a band of music played the trains out of the stations. The carriages were peculiar in construction, the floors being but 22 inches above the rails; they were 14 feet 6 inches long and 6 feet wide, each with four wheels of 36 inches diameter, which must have projected 14 inches above the bottoms of the carriages; they had no buffers, and were first and second class only, the latter having but one door each, and seats around the four sides.

In 1840 the company's locomotive stock consisted of nine engines, which had no names, a remarkable fact in those days, but a practice which the S.E. Railway appear to have followed nearly from its inception. Five of the locomotives were four-wheel ones, the remaining four having six wheels each.

When the London and Croydon line was constructed it gained access to London by a junction with the London and Greenwich Railway at Corbet's Lane, along which company's trains proceeded to London Bridge, where it had

HISTORY OF THE SOUTH-EASTERN RAILWAY.

a terminus on the side nearest the river. For the use of this line the Croydon Company, and afterwards the L.B. & S.C. and S.E. also, had to pay the Greenwich Company a toll of 3d. for each passenger.

With regard to the divergence of the two lines at the Corbet's Lane Junction, we cannot but smile when we read the following remarks, written in all gravity by Whishaw:—"In consequence of the trains having to pass along the Greenwich Railway before reaching the Croydon line, the utmost care and vigilance is required to prevent collision with the Greenwich trains. A signal-house is placed at the junction, and by judicious arrangements accidents from the above cause seldom happen." And yet, with all our *fin-de-siècle* improvements of interlocking, block-signalling, etc., accidents still occasionally happen from the same cause.

The great increase of traffic consequent upon the Croydon Railway trains coming over the Greenwich Company's line made the widening of the line necessary, so that in 1840 two more lines were added, making four in all. This brought the cost of the line to over a million pounds. The London and Greenwich Railway was in 1845 leased in perpetuity by the S.E. Company at the rent of £36,000 for the first year, increasing £1,000 per annum, till in 1845 it reached £45,000, at which rental it remains. The rent is payable half-yearly, and should the S.E. Railway be so unfortunate as to be more than 14 days behind in paying the £22,500 the Greenwich Company have the right of immediate re-entry, which would, of course, put an end to the lease; besides the rent there are various other charges, such as that for the bridge over the Deptford Dock, etc., to be paid by the S.E. Railway Company.

We see, then, that it was through the short-sightedness and unwisdom of our legislators that the original railway to Dover was made in such an indirect way as to pass through Croydon. The proprietors of the S.E. Railway early objected to being at the mercy of the Croydon Company, and a Bill was brought forward to allow the S.E. to construct an independent line from the Obelisk in the Borough to Penge Common, a distance of 7 miles 21 chains. The Bill was not passed, and so the S.E. was still dependent upon the Croydon Railway. The original Act of Parliament, authorising the S.E. Railway, was passed June 21st, 1836, the capital being £1,400,000, with power to borrow an additional £450,000. This line was to commence with a junction with the London and Croydon Railway at the latter town, and proceed through Oxted to Edenbridge; but after part of the works had been executed it was abandoned, as it would have necessitated the construction of two long tunnels, so in 1839 an Act

was obtained to allow of a deviation. After lying dormant for over 40 years a line has, in the last few years, been made along the very same course as originally proposed for the S.E. main line, and is known as the London, Brighton, and South-Eastern Joint Oxted line, which extends from Croydon to the S.E. Railway at Edenbridge and to East Grinstead.

The Act of June 14th, 1839, enacts that when the Brighton Railway is completed from Croydon to Redstone (now Red Hill), the lower or southern half is to be conveyed to the S.E. Railway at cost price, with the interest on outlay added; but each company is to have the privilege of passing over the whole distance from Croydon Junction to the S.E. Railway divergence at Reigate (Redhill) without paying toll to each other. This joint line is 12 miles in length, and the S.E. paid the Brighton Company £300,000 for the six miles conveyed to them by the Brighton Company, according to the enactment of June 14th, 1839. This made the distance, Croydon to Dover, $76\frac{1}{2}$ miles, instead, as originally estimated, $69\frac{1}{2}$ miles, *via* Oxted. The Brighton Company's trains stop at the stations on the northern half of the joint line, and the S.E. Company at those on the southern half of the line, excepting Purley, which station, although on the Brighton Company's half, the trains of both companies use; it was originally an exchange station for the Caterham branch, belonging to an independent company, and when the S.E. bought this branch railway up they proposed to make a line to connect it with the Mid-Kent Station at Addiscombe Road, but an arrangement was entered into between the S.E. and the Brighton Companies for the joint use of the Caterham Junction (now Purley) Station.

The estimate for the original S.E. line was at the rate of £19,200 per mile, but when the line was carried out, *via* Redhill, the estimate per mile for construction was reduced to £18,779 16s. 4-12d., although, as the distance was greater, the total cost was increased.

The law costs paid to obtain the necessary Bill for the S.E. Railway amounted to £24,000, and the solicitors' bill of costs contained the enormous total of 10,000 folios, or 720,000 words.

Mr. William Cubitt was the contractor for the line, which was opened to Tunbridge in May, 1842. The engines of the S.E. Company only took the trains between Tunbridge and Redhill, the Brighton Company hauling them the rest of the distance to London; but shortly after both these Companies agreed to have a joint locomotive establishment, the engines to be used for both Companies as required. This arrangement was continued for some years. Both these com-

panies had to pay the London and Croydon Railway a heavy toll for each passenger conveyed over that company's line.

The line was opened to Headcorn in August, 1842, and to Ashford in December of the same year. A station was provided at Paddock Wood—then called Maidstone Road—for the convenience of Maidstone, ten miles distant. The following is the time-table of the trains at this period :—

DOWN.		Miles.	A.M.	A.M.	P.M.	P.M.	P.M.
London Bridge	—	...	9.30	11.30	1.30	4.0	5.30
New Cross	3	...	9.45	11.45	1.45	4.15	5.45
Croydon	10½	...	10.5	pass	2.5	4.35	6.5
Reigate (now Redhill)	20¾	...	10.33	12.25	2.33	5.3	6.33
Godstone	26	...	10.47	pass	2.47	5.17	6.47
Edenbridge	31	...	11.1	12.45	3.1	5.31	7.1
Penshurst	35	...	11.15	pass	3.15	5.45	7.15
Tunbridge	40	...	11.32	1.10	3.33	6.2	7.32
Maidstone Road	45	...	11.46	1.25	3.46	6.16	7.46
Marden	48	...	12.0	pass	4.0	6.30	8.0
Staplehurst	51	...	12.10	1.45	4.10	6.40	8.10
Headcorn	56	...	12.20	pass	4.20	6.50	8.20
Pluckley	61	...	12.35	pass	4.35	7.5	8.35
Ashford	66	...	12.50	2.25	4.50	7.20	8.50
UP.			A.M.	A.M.	P.M.	P.M.	P.M.
Ashford	6.30	...	9.45	12.40	4.0	7.30	
Pluckley	6.45	...	10.0	pass	4.15	pass	
Headcorn	7.0	...	10.15	pass	4.30	pass	
Staplehurst	7.10	...	10.25	1.20	4.40	pass	
Marden	7.20	...	10.35	pass	4.50	pass	
Maidstone Road	7.35	...	10.50	1.50*	5.5	8.27	
Tunbridge	7.53	...	11.8	1.58	5.23	8.45	
Penshurst	8.7	...	11.22	pass	5.37	pass	
Edenbridge	8.22	...	11.37	2.20	5.52	pass	
Godstone	8.37	...	11.52	pass	6.7	pass	
Reigate	8.52	...	12.7	2.43	6.22	9.25	
Croydon	9.17	...	12.32	pass	6.47	pass	
New Cross	9.35	...	12.50	3.20	7.5	pass	
London Bridge	9.45	...	1.0	3.30	7.15	10.15	

The average speed of the slow trains, including stoppages, will be found to be about 20 miles an hour, while the average speed for the whole journey of the quickest is 24 miles per hour; the highest speed is that of an up one, which averages 28 miles per hour between Reigate and New Cross. Godstone Station is some three miles from the village, but a new hamlet has sprung up around the station, and is now called Godstone Station. The Maidstone Road Station was ten miles from the country town.

The line from Redhill to Ashford—a distance of over 48 miles—is almost straight for the whole length, and is, we believe, the longest piece of straight road in the kingdom. The main line was opened to Folkestone in June, 1843, and to the Dover terminus in February, 1844. As far as Folkestone the route had presented no need for any remarkable engineering skill, but that town is divided by a deep chasm, over which the railway was successfully carried by the cele-

brated Foord Viaduct, consisting of 19 brick arches over 100 feet high, the brickwork piers of which are only six feet wide. Beyond Folkestone the country becomes very wild, and the line is carried through "Little Switzerland," as it is fancifully called, with the tall chalk cliffs at the back, and the English Channel in front.

In the Warren between Folkestone and Dover the lines go through a series of tunnels. The Martello 1,900 feet long, Abbots Cliff 5,820 feet, and the Shakespeare Cliff 4,179 feet. There are separate tunnels for the up and down lines through the Shakespeare Cliff, and with the rolling stock in use when constructed there was plenty of room between the sides of the tunnels and the vehicles; but modern coaches are so much wider than the old ones. The brickwork has been cut away so increasing the clearance, and quite recently a foreign gentleman who was leaning out of the window of an up train was severely injured by his head coming in contact with the buttress of one of the Gothic arches of the entrance to the Shakespeare Tunnel. The openings of these arches are about 30 feet high. In connection with these tunnels a method of excavation was employed, which considerably lessened the cost of construction. Instead of sinking shafts to remove the soil, small tunnels, or galleries, were driven at right angles with the main tunnels, and from them to the face of the cliff, a distance of 400 or 500 feet. In these small tunnels, which were six feet wide and seven feet high, tramways were laid down, by means of which the excavated soil was taken and tipped out into the sea. The railway company generously allowed the public to enter and view the progress of the work during the construction of these tunnels. Then in the Warren, instead of cutting through a huge cliff (known as the Round Down Cliff, which was 375 feet high and 300 feet long, by 70 feet thick) in the usual manner, several holes were bored in the mass and filled with gunpowder (the charges amounting to 19,000 lbs. of powder); at a given signal these were exploded by an electric current, and a mass of earth weighing 1,000,000 tons was removed. This *debris* was moved 1,200 feet by the explosion, and covered an area of over 15 acres. Between the tunnels the railway is carried on top of a wall with a base of 30 feet, narrowing as it gets higher; the railway level is 20 feet above high-water mark, and when the sea is rough it frequently breaks over the line. From Shakespeare Tunnel to Dover Station the line is carried along the sea-shore, on an open timber-bridge, under which the sea flows at exceptionally high tides. Folkestone was soon decided upon by the S.E.R. as a good place for landing for the continental traffic, and in 1843

the Company bought the harbour which Telford had constructed in 1809 (and which had never been a success), and connected it with their main line by a branch three-quarters of a mile long, with a swing bridge over the harbour. Here they erected a station for goods and passengers, with warehouse accommodation, &c. This branch has no direct communication with the main line, the through trains having to be run into a siding, and then another engine is placed at the other end to work them on the branch. Although the Maidstone people before the railway was constructed had been so vehement in their opposition to the scheme, yet they soon repented—the repentance being no doubt accelerated by the inconvenience of having to make a ten-mile journey by road to enable them to reach the railway. A single line branch was therefore constructed from Paddock Wood (Maidstone Road) to Maidstone, and opened in September, 1844, and the traffic on this line was so extensive that the line was doubled two years later. The two London Bridge stations were soon found insufficient to accommodate the traffic of the four railways using them, and in 1844 the S.E. and Croydon railways jointly constructed the Bricklayers' Arms extension at a cost of £25,000 for the $1\frac{1}{2}$ miles of permanent way, but in a very short time this branch became the sole property of the S.E. Railway; but the L.B. and S.C.R. (then known as the South-Eastern Brighton Railway) have an agreement with the S.E. Dover Railway, by which they use the branch for their goods traffic.

This branch line and station, now given up solely to the goods department, was, till some 30 years ago, used for passenger traffic as well, particularly that from the West End of London, the situation of the station being considered more convenient of access than London Bridge. The last passenger to arrive at this station was H.R.H. the Princess Alexandra of Denmark, now the Princess of Wales, when she first visited our shores, a few days before her marriage, which took place 10th March, 1863. H.R.H. arrived at Gravesend by steamer, and travelled by special train to Bricklayers' Arms, from whence she drove to Paddington, and proceeded by train to Windsor. The station was closed as it was found it did not attract the West End traffic as was anticipated, and also because the Charing Cross Station was shortly about to be opened. Third-class passengers were carried from Bricklayers' Arms Station, and whatever advantage was derived from the accommodation provided for them. In the third class, fifty years ago the railway was considered by others in the superiority of its service. The directors "were so anxious

that third-class conveyances were provided which were well appointed." At this station there was another improvement which saved much time and trouble, as well as expense to the locomotive department; we refer to an immense turn-table sufficiently large to turn the engine and tender at once without uncoupling them from each other, as was usual at that time.

The first extensions were those from Ashford to Ramsgate (the proposed site of the S.E. station at Ramsgate being on the west side of the Harbour), a distance of $30\frac{1}{2}$ miles—by means of which the Canterbury and Whitstable Railway was connected with the other lines in the country—and three and a half miles additional to Margate, opened throughout December 1st, 1846. Minster to Deal, $8\frac{3}{4}$ miles, on 1st July, 1849. In August of the same year an independent line, known as the Gravesend and Rochester Railway, $6\frac{1}{2}$ miles long, was opened, which was subsequently purchased by the South-Eastern Railway; this was originally the Thames and Medway Canal, formed for the purpose of connecting those two rivers by a short cut, and so saving some 70 miles of water carriage between the Medway towns and London; but like the Croydon Canal it was soon diverted from its original use and given up to the more convenient railway.

In 1845 the railway mania had taken a firm hold of the country, and new lines were projected through all parts of the kingdom, the South-Eastern district coming in for its full share; at the hands of the North Kent Railway, a proposed line from London through Peckham, Lewisham, Bexley, Dartford (with a loop line through Woolwich) to Rochester, across the Medway to Sittingbourne, Sheerness, and Faversham to Chilham, and a loop line from Canterbury *via* Deal to Dover. The South-Eastern Company's lines in opposition to this proposal consisted of a line from Westminster Bridge to Lewisham, a line from thence to Tunbridge *via* Bromley and Boro' Green, with a short branch to Sevenoaks; another from Boro' Green to Maidstone, and on to Ashford. The North Kent and loop lines to Dartford, and on to Gravesend to join the Gravesend and Rochester Railway, and the continuation of that line to Maidstone; a line from Rochester to Chilham, with branches to Sheerness and Faversham, a branch from Minster to Margate, a branch from Godstone to East Grinstead, and one from Canterbury to Dover; together with a continuation of the Redhill and Dorking line (then in course of construction) to Reading and the Tunbridge Wells branch (then being built) to Hastings, with a connecting line Battle across country to near Winchelsea, and a ~~sho~~ from Rye to Rye Harbour.

Of these numerous lines the S.E. have since co

those now known as the Loop and North Kent lines as far as Maidstone, the Tunbridge Wells and Hastings line, the Rye Harbour branch, and the Reading branch; while the Chatham Company own the lines from Rochester to Dover *via* Canterbury, the Sittingbourne and Sheerness branch, the line from Otford to Sevenoaks, and Otford to Ashford *via* Maidstone. The rest of the lines as then proposed have not been constructed, but others in the same districts have been instead. The following table issued by the directors with the report already referred to, shows the distances by the then existing lines, and by the proposed new ones, with the saving to be effected:—

London to—	Existing Route. Miles.	New Route. Miles.	Saving. Miles.
Tunbridge	41½	32	9½
Maidstone	56	35½	20½
Tunbridge Wells	46½	36½	10
Folkestone	82	68½	13½
Dover (new route <i>via</i> Mid-Kent)	88	74½	13½
” (new route <i>via</i> North-Kent)	88	76	12
Deal	100½	80½	20
Ashford	67	53½	13½
Canterbury	80½	60½	20½
Whitstable	86½	66	20½
Margate	100	76	24
Ramsgate	96½	76½	20½
Sandwich	96½	76½	20½

We often hear travellers say that the fares by the S.E.R. are higher than by other lines. This was not the case in 1845, as the directors for about a year tried the experiment of reduced third-class fares, and accelerated trains, to induce people to travel; but this plan did not meet with much success, so the fares were raised to about the rate charged by other railways. The following table shows the fares charged, and the speed of the trains conveying third-class passengers in 1845:—

	S.E.	G.W.	London and Birmingham.
Fare per mile	6-7d.	1d.	1d.
Average miles per hour of trains ...	20½	14	15
	L. B. & S. C.	S.W.	Grand Junction.
Fare per mile	1d.	1d.	1d.
Average miles per hour of trains ...	20	15½	14

With the view to uniformity, the S.E. mileage rates arranged from 1st January, 1895, are 1d. 3rd, 1½d. 2nd, and 2½d. first class.

In the accounts for the half-year ending 30th September, 1843, the working expenses amount to 49½ per cent. of the gross receipts, divided as follows: maintenance 2½ per

cent., locomotive power 15 per cent., coaching 10½ per cent., general charges 3½ per cent., rates, tolls, and duty 17 5-8ths per cent. For the half-year ending December 31st last, the expenses amounted to very nearly 49½ per cent., so that they have not increased much in fifty years. The Company expected a large profit to accrue to them from the continental traffic, and they appear to have gone to considerable trouble and expense to get the line from Paris to Boulogne constructed, as in 1843 the S.E.R. expended £1,287 17s. 4d. upon a survey of the country between those places.

The S.E.R. directors soon discovered that it was necessary for their line to have a shorter way to Dover and the S.E. district generally, than the route *via* Redhill afforded. In March, 1847, the board of directors issued a further pamphlet discussing the question as to "Who is to be allowed to cut off the angle at Reigate?" From this statement it appears that the Mid-Kent Railway Bill of theirs, which provided a direct line to Tunbridge, Maidstone, and Ashford, had successfully passed the Commons, but was thrown out by the House of Lords. In the ensuing session they proposed to obtain a Bill to allow of widening the railway from Corbet's Lane to London Bridge, to eight sets of metals—there are still only six, but the Company in 1891 and 1892 obtained powers to widen this section of their system—and they have already commenced with the London Bridge Station, and are purchasing the necessary land on the north side of the railway all the way down as opportunity offers. A well-known firm of biscuit makers, whose factory adjoins the line at Bermondsey, were required to sell a strip of land 16 feet wide and about 265 feet long, or a total area of 4,134 superficial feet. For this strip the S.E.R. were asked no less a sum than £1,250,000, or at the rate of £13,000,000 per acre, and were furthermore told that if the railway took that portion of their land they would be required to take the whole of the biscuit works extending to several acres. It is hardly necessary to say that the Company promptly declined to buy at this price, and the claim will be settled by arbitration. This is one example of the exorbitant claims made upon railways when they find it requisite to obtain additional accommodation for the purpose of their business. The directors stated that the proposed Kent Railway, which they were opposing, was really projected by the Brighton Railway, and was not an independent line; the gradients on this were to be 40 feet to the mile, while the S.E. gradient was only 20 feet to the mile, or 1 in 264; the Kent Railway was to be worked on the atmospheric system, which was then in great favour. This proposed railway left the Croydon line at New Cross, and proceeded to Otford, thence to Maid-

stone, then it ran north to Sittingbourne, and onward eastward through Faversham to Canterbury. There was to be a branch from Otford to Tunbridge *via* Sevenoaks. The reason that the L.B. & S.C.R. promoted this line was to prevent the S.E.R. getting an independent outlet from London, as the tolls paid by the latter to the Brighton Company, for the use of the Croydon Railway, largely augmented the Brighton company's revenue.

One of the landmarks in the history of the S.E.R. is the agreement entered into with the L.B. & S.C.R. on the 12th November, 1849. Its results have had a great and lasting effect on the subsequent development and prosperity of this railway. When entered into, one would think the S.E. board of directors were weary of the numerous struggles they had gone through (without success) to obtain an independent route out of London, and so, to save themselves the onerous toll they were compelled to pay for the use of the line to Croydon, they entered into this arrangement, which, had it not been lately modified by Sir H. Oakley's award (under which the S.E.R. receive some £12,000 or more annually from the L.B. & S.C.R.) it might have been said to parallel the sale of the first-born's birthright for a mess of pottage. With the exception of freeing the S.E. trains from toll on the Croydon line, all the covenants are greatly to the advantage of the Brighton Company. The following are the heads of the agreement:—

- 1.—The Brighton Company to have *free* use of the Greenwich line.
- 2.—The Brighton Company to have free use of the Bricklayers' Arms branch and station for passenger traffic.
- 3.—The same for goods traffic, until the Brighton Company have decided upon a suitable site on the east side of the S.E. station; which site—not exceeding 15 acres—the S.E. are to convey to the Brighton on lease for 999 years at an annual rent of *one shilling*.
- 4.—The S.E. to give up their claim on the Brighton for £25,000 for the use of the third Greenwich line.
- 5.—The Croydon line to be free to all S.E. traffic, but the S.E. not to make or work new competing lines to Brighton, Horsham, Chichester, or Portsmouth.
- 6.—The charges to East Croydon to be the same companies, but to be made by the Brighton Company.
- 7.—The S.E. trains to be at liberty to call at *statio* London and Croydon, for the purpose of picking up down passengers to or from *S.E.* stations.
- 8.—The S.E. to complete their line from St. Le

Hastings, and so give the Brighton Company an entrance to the latter town.

Now that the S.E. have their direct line to Tunbridge, the route *via* Croydon is of but little value to them, especially as they are precluded by the agreement from making any new lines from the westward. Even if the Company had not the direct Tunbridge line, to our thinking the Brighton Company obtained more than sufficient compensation under the first two heads of the agreement to equal that given to the S.E. under the fifth.

The next sections of the line opened for traffic were the North Kent from St. John's to Gravesend, 27 miles, on 27th July, 1847; this joined the Gravesend and Rochester Railway, and so opened railway communication between London and Strood for Chatham. The branch of eight miles, Redhill to Dorking, was opened 4th July, 1849, and the 16½ miles from Reading to Farnborough on the same date; the 10 miles, Farnborough to Guildford, was opened on August 20th, 1849, as also was the 10½, Dorking to Shalford, while the remaining 1½ miles from Shalford to Guildford, the property of the L. and S.W. Railway, completes this branch of the S.E., and gives it a route to Reading. When the Parliamentary powers were obtained for this railway it was intended to work it by atmospheric pressure instead of locomotives; but the opinion of the railway engineers as to the advantages of that system having altered during the construction of the line, the proposition was not carried into effect. The Reading, Guildford, and Reigate Railway was amalgamated with the South-Eastern, the latter Company being charged with the payment to the shareholders in the Reading Company of 40,000 perpetual annuities of one pound and sixpence each, making £41,000 per annum in the proportion of one annuity for each share of £20 in the Reading Company.

Railway travelling in the "forties" must have been attended with great risks, and it is very surprising that more accidents did not take place; the signalling arrangements must have been of a very primitive type, and the telegraph was not yet in use upon the line. In "Ernest Struggles" an engine-driver tells the following incident:—"No telegraph till 1848, and the *Times* newspaper and the *Herald* paid £5 a night and £5 a day for an engine to stand there (Folkestone?) ready for to take the news up, at the time of the French Revolution, when the boat came in. They paid £30 for the return up, and the reporters raced one another from the landing place."—"Go together?"—"Not they, if one of them got his foot on the engine it was his train, and he wouldn't wait for a carriage. I was mostly in first as luck would have it, but

once the *Herald* man got before us, and the *Times* man was terribly annoyed. 'I will give you £3,' said he, 'if you can get in front of him!'

"Of course you couldn't do it?"

"Oh, couldn't I? Why, when he was taking water half-way in a siding I got in front of him and got the £3."

The Ashford and Hastings branch, $26\frac{1}{2}$ miles long, was opened in February, 1851. The section from Hastings to Winchelsea, 9 miles 12 chains, was the longest distance on the S.E.R. without a station, but it has recently been slightly reduced by the erection of Ore Station, 73 chains from Hastings. On this branch is a swing bridge over the river Rother, near Rye. It weighs 116 tons, is 112 feet long, and swings on a centre pier 22 feet square. It was designed and constructed by Ransome and May, engineers, Ipswich.

The next portions of the line opened were those from Tunbridge Wells to Robertsbridge, $15\frac{1}{2}$ miles, on September 1st, 1851; Robertsbridge to Battle, 6 miles, on 1st January, 1852; and Battle to St. Leonards, a further distance of 6 miles, a month later. The connecting line, St. Leonards to Hastings, was opened not long after; the S.E. purposely not completing it until they had arranged their differences with the Brighton Company, as its completion gave the Brighton access to Hastings. Mr. P. W. Barlow, who was engineer to the Company at this time, laid 62 miles of the permanent way, principally on the two lines to Hastings, with his cast-iron rails, which, from their peculiar construction, required no sleepers, and, like many inventions, made a great stir for a short time, their universal use being predicted, it being said that the Barlow rail was cheaper, better for high speed, lasted longer, and cost less to renew than the rails and sleepers; but, as usual, with many improvements of which so much is expected, it soon sank into oblivion, and gave place to the ordinary system, which is still in use. At the great International Exhibition, held in 1851, the S.E.R. Company exhibited a carriage 44 feet long, running on eight wheels, the prototype of the modern bogie. It contained four first and four second-class compartments, besides one for the guard and luggage. This vehicle was joined in the middle to allow of its running round the curves easily. It has the names of the principal towns on the Continent painted on its sides, and was grandiloquently named "The London and Europe Carriage." Several carriages of this class were afterwards added, and for many years the S.E.R. was the only line owning eight-wheel vehicles. Engines on Crampton's principle were also exhibited, the S.E. being the first railway to use these. Up to this time smoking was not allowed in any

carriage or station of the Company; the first-class passengers were allowed 84lb., second-class 56lb., third-class 28lb. of luggage free, instead of the present quantities; while the age for half-fares was ten years, and not twelve years, as now.

The Company's half-years ended 31st January and 31st July, and it was not till 1871 that the dates were equalised, and made June and December.

In 1853 the first section of the L.C. & Dover Railway was opened. It extended from Strood to Canterbury. The line was at first called the East Kent Railway, and was continued from Canterbury to Dover in 1859, and so came into contact with its rival, the S.E., at three points, and a fierce rivalry has raged between the two companies ever since; but it was not till some few years later that the L.C. & D. Railway obtained an entrance to London, and so caused direct competition between the two lines. From Strood the L.C. & D. made a line known as the "Western Extension" to Bickley, where it joined the Mid-Kent Railway, over whose system it passed to Beckenham, from whence a short branch was made to near the Crystal Palace, which afforded a connection with the Crystal Palace and West End Railway, now worked by the L.B. & S.C.R., and so gave the Chatham Company an entrance to Victoria, *via* Clapham Junction, thus providing a second through route from London to Dover. The S.E. had, up to this time, worked the Mid-Kent Railway from Lewisham to Bickley, but as the L. & C. Railway now used the portion from Bickley to Beckenham, the S.E. arrangements with the Mid-Kent Company were modified.

The following tabulated statement will forcibly illustrate the great progress this railway has made during the time that has elapsed between the years mentioned:—

RECEIPTS.

	Half-year ending January 31, 1845.	July 31, 1854.	December 31, 1894.
Passengers	£102,749 17 6*	£373,808 11 0	£848,725 15 11
Goods	16,546 3 1	57,108 0 6	306,363 12 11

Half-year to January 31, 1850: Miles run (passenger, goods, ballast, and engines), 963,424: fuel consumed, 13,784 tons of coke; cost of fuel, £13,756 5s. 4d. Half-year to July 31, 1854: Miles run, 1,470,353; fuel consumed, 15,712 tons of coke; cost of fuel, £14,886 5s. 1d. Half-year to December 31, 1894: Miles run, 4,047,861; fuel consumed, coal; cost of fuel, £54,188 10s. 3d.

* From these receipts £114 10s. 10d. was deducted, being the sum paid to coach proprietors for traffic brought to the railway.

		ROLLING STOCK.					
		July 31, 1850.	July 31, 1854.	Dec. 31, 1854.			
		Pas. Gds. Tl.	Pas. Gds. Tl.	Total.			
Locomotives	90	102	32 — 134	123	43 — 160	403	
Royal saloons		2		4		1	
First-class		196		182		387	
Second-class		123		152		239	
Composite	409	46		79		188	
Third-class		82 open 50 covered	132	153		724	
Luggage vans		33		79		306	
Horse-boxes		61		60		101	
Carriage trucks		64		76		130	
Goods & cattle wagons & trucks	881	1,120		1,685		5,735	
Goods brakes		12		28		152	

PASSENGERS CARRIED.

	July 31, 1852.	Dec. 31, 1853.	Dec. 31, 1854.
First-class	490,000	2,169,690	940,639
Second-class	1,065,000	3,144,290	2,375,086
Third-class	3,137,000	16,538,591	28,515,024

Rates, taxes, and tolls paid, half-year to July 31, 1854, £20,136, 0s. 3d. Government duty, £11,861 13s. 11d. Rates, taxes, and tolls paid, half-year to December 31, 1854, £65,468 10s. 5d.; Government duty, £2,578 19s. 10d.

During the half-year ending July, 1854, the Company were out of pocket to the extent of £345 11s. 4d., being the loss on light gold taken from the public at full value.

The Company obtained possession of the steamers running between Folkestone and Boulogne in 1854, and carried 31,951 passengers between those ports during the six months ending July, while only 12,132 were conveyed between Dover and Calais. These steamers had formerly been owned by a semi-independent company.

At the present time the Dover route is much more popular than the Folkestone one, and the number of passengers on the former increases year by year, whilst those travelling Folkestone continue to diminish. The S.E. Company made a grave mistake in allowing the steamboat service between Dover and Calais to fall into the hands of the Company. When the original contractor gave up the route it was offered to the S.E. Railway Company, and they, as the directors considered that holding the Dover route in their own hands they had the key of the whole Continental traffic; consequently the Dover boats were considerably improved the service. Competition has been severe between the different routes to the Continent, and the Company has recently been said that the Folkestone-Boulogne route is to be closed; but this is not so, for the quai

*First Parliamentary return of Rolling Stock. Of all the railways in England the S.E. had the largest number of passenger vehicles (490).

possible to Paris and the South is by this service; indeed, the S.E.R. is about to improve and accelerate the service, orders having already been placed for larger and swifter steamers, so that it is probable that Folkestone will continue to have the best Continental traffic.

On 24th August, 1854, a collision occurred at Croydon, in which three people were killed. An excursion train, consisting of *fifty* carriages, left Dover at 8.30 a.m. for the Crystal Palace. At Ashford the train was divided into two parts, as it was considered to be too long for one train. The first part reached its destination in safety. The usual red board was attached to the rear of the first part, to notify that the other part was following; but several ordinary trains passed through Croydon between the two portions of the excursion, and although the telegraph clerk was advised by Stoats Nest that the second part was approaching, he did not communicate the information to any of the station staff. A Brighton Company's ballast train arrived at Croydon on the down line, and the engine crossed to the up line for the purpose of obtaining water at the tank, and while doing so it was run into by the second portion of the South-Eastern excursion, which consisted of engine, tender, and twenty-three coaches. From the evidence at the inquest, it appears that the up distant signal was at "All right," and the driver expected to find the home signal in the same position; consequently when he found it at "Danger" he was unable to stop his train, and so avoid colliding with the engine at the water tank, the driver of which, seeing a collision was likely to occur, had put on steam, and proceeded as far as Windmill Bridge before he was run into. At this early date the South-Eastern had a system of automatic block signalling, the signals being put to danger by the trains as soon as the engine passed them, by means of a contrivance fixed on the line.

The result of the inquest was the committal of the S.E. driver for trial for manslaughter. He was tried at the Kingston Assizes and acquitted. The two railways could not agree as to who was the more in fault, the S.E. driver or the L.B. & S.C. signalman and telegraph clerk, and the matter was referred to arbitration, the award being that the S.E. was to pay 15 per cent. and the L.B. & S.C. 85 per cent. of the compensation. The S.E. proportion amounted to £8,842 11s. 8d., so that the enormous sum of over £53,950 must have been paid in compensation as the result of this accident.

It will not be out of place here to briefly describe the other principal accidents that have happened on this railway.

On Sunday, June 22nd, 1857, the 9.15 p.m. train from Strood was standing in Lewisham Station, when it was run into at the rear by the 9.30 train from the same place. The brake van of the stationary train was forced on the top of the next carriage, an open third-class one, and eleven of the passengers in that vehicle were killed. The driver and stoker of the rear train and the telegraph clerk were tried for manslaughter and acquitted.

On June 30th, 1858, a special excursion, consisting of nine coaches, left London Bridge at 3 p.m. for Ramsgate, and when the train was near Chilham, while travelling at full speed, it left the metals, and as a result three passengers lost their lives. The driving axle of the engine broke, but it was never decided if that was the cause of the mishap or only an effect. On August 11th of the same year a train was being drawn from the ticket platform to the terminus at Ramsgate, by means of a rope, and was allowed to run violently into the dead end, resulting in the serious injury of 20 passengers.

On December 16th, 1864, a disastrous collision occurred in the Blackheath Tunnel, between a ballast train and a passenger one. The rails in the tunnel were very slippery, and the ballast train could make no headway. The express passenger train ran into its rear, killing five platelayers who were in the ballast brake. Those in charge of the ballast train declared that the train had been divided, and the first part was only just starting when the collision happened, while the signalman said the passenger train did not enter the tunnel till he saw what he presumed was the whole of the ballast train arrive. The inquiry proved the signalman to be in error.

The most disastrous accident of all was the one that occurred on 9th June, 1865, between Marden and Staplehurst, to the up tidal express, which left Folkestone at 2.30 p.m. For a period of ten weeks the Permanent-Way Department had been renewing a bridge 100ft. long over a stream, $1\frac{1}{2}$ miles from Staplehurst, and on the day in question two lengths of rail had been removed, when suddenly the train was seen in the distance approaching the bridge at full speed. The flagman was only 150 yards in advance of the obstruction, and in consequence of the margin being so small the train, which consisted of engine, tender, brake-van, 1 second-class and 7 first-class carriages, 2 brakes and a van, could not be stopped in time, although the brakes were fully applied. The engine, tender, and front van were kept in position by the guard rail, and did not leave the line. All the other vehicles went off the line and over into the stream, resulting in the death of 10 and injury to 50 more passengers, out of 110 who were in the ill-

fated train. Charles Dickens was travelling by the train, but fortunately escaped uninjured. The ganger of the plate-layers was arrested, and he attributed his mistake to the fact that he thought the day was Saturday instead of Friday, as on the latter day the tidal train would not have reached the bridge till 5.30 instead of 3.15. The following extract from the *Times* shows the train to have been well provided with brake power: "This disaster would have been greater had it not been for the unusual amount of brake power incorporated in the train, in addition to the ordinary leverage power exerted in the three brake-vans; there were patent brakes as well, of the kind known as Cremer's, an American invention, supposed to possess properties of peculiar value in arresting the progress of the train." There were seven brakes in all besides the one on the tender. This accident cost the Company £80,000 for compensation.

On 24th January, 1866, the Vicar of Bedminster obtained a judgment against the Company for £4,500 for personal injuries sustained by him in the Staplehurst accident—the Company had only paid 1s. into Court for compensation; and to another passenger, who claimed £20,000, £7,000 was awarded.

We are now going to relate the most notorious event connected with the South-Eastern Railway, namely, the sensational bullion robbery, which is, without exception, the most daring and ingenious theft ever perpetrated in the annals of railway history. Briefly stated, the following are the facts:—On 15th May, 1855, £20,000 of gold was consigned to Paris, and was despatched by the night mail from London Bridge Station; the bullion, which consisted of gold in bars, dust, and coin, was packed in three boxes, which were fastened by screws, "double sunk" into the woodwork, the holes of which were filled with wax and officially sealed. These boxes were placed in iron safes, secured by Chubb locks, in the brake-van. The boxes were weighed before starting on the journey, again when taken out of the safes at Folkestone, when landed from the steamer at Boulogne, and upon arrival in Paris. The weights tallied at each place, the seals and screws were intact, yet when the boxes were opened £12,000 worth of gold had disappeared, and lead had taken its place. For a long time no clue could be discovered; the detectives were quite nonplussed, many innocent people were suspected, and thereby caused much pain; and had it not been that the thieves fell out the truth would never have been discovered. The proverb, "When thieves fall out, honest men get their own," was truly exemplified in this case. The head of the gang was a notorious forger, named Agar, but known amongst his confederates as

"Jim the Penman," and it seems that his companions, being greedy, wanted to get him out of the way, and so have his share of the plunder themselves; they therefore got up a case of forging a cheque against him, and he was convicted and sentenced to a long term of imprisonment; this was in October, 1856. Agar was on very intimate terms with a young woman who had been barmaid at the Tunbridge Station Refreshment Rooms, and when he was sent to prison he left word that his fellow thieves were to support her out of his share of the robbery. This they refused to do, and when she went to see him at Portland, in a half-starved condition, he sent word by her that unless the others provided for the woman he should give information as to the robbery. But they, thinking they were quite secure, still neglected to provide for the barmaid; consequently, in November, 1856, Agar gave information which led to the arrest of three men: Pierce, formerly a ticket-printer in the employ of the S.E.R. Co.; Burgess, the guard of the mail; and Lester, a clerk in the superintendent of the line's office. The following is a condensed history of the case as detailed by Agar at the trial of the three men, which took place on January 13th, 14th, and 15th, 1857, and resulted in Pierce getting two years, and Burgess and Lester fourteen years' imprisonment each:—

Pierce was discharged from the Company some four years before the robbery, and, knowing Agar, mentioned the idea of the theft to him. He at once saw it would be necessary to have some people in the employ of the railway in the conspiracy to carry out the matter successfully; and Burgess, the guard, and Lester, then a clerk at the Folkestone Station, agreed to act with the other two. After much trouble, including a long stay at Folkestone for the purpose of watching how the business was conducted, and having three hundred sovereigns sent to him there so as to enable him to be present when the safes were opened, Agar obtained wax impressions of the keys of the iron safes; he then made duplicate keys, and made five journeys in the brake-van before he was successful in opening the safes with those duplicates. Having succeeded so far, they purchased two cwt. of lead shot, and used to drive up to St. Thomas' Street every night in a cab, with the lead in bags on top; and one of them went up to the station and watched Burgess, who was to wipe his head when any bullion was going down by the mail. On the 15th May he did so. The cab was then driven up to the station, and the bags put into the brake-van, while Lester and Pierce got into a carriage as ordinary passengers, and Agar hid in the van. As soon as the train started he commenced operations, assisted by Burgess. At Redhill Lester alighted, and claimed his

bag from the van, the bag by this time having been filled with gold in place of the lead it originally contained. When the train reached Folkestone the other bags had been filled with the precious metal. Here the safes containing the boxes now filled with lead were transferred from the train to the steamer, while Pierce and Agar remained in the train and travelled to Dover, where they claimed their luggage (the bags of gold). They had supper at an hotel, and returned with their booty to London by the 1.55 a.m. Belgian Mail. The gold stolen weighed two cwt., and the only reason the whole of the consignment was not taken was the inability of the three men to easily carry more than the two cwt. between them without the great weight of their luggage exciting suspicion.

This robbery caused the Railway Company to remodel its arrangements for the carriage of bullion, and instead of the metal being placed in safes in the ordinary brake-vans the Company had built five special bullion trucks for this traffic. These trucks are about the same size as ordinary open carriage trucks, with the sides about two feet high, and a top which slopes upwards to a height of about three feet six inches in the middle, after the style of a gable roof. At Folkestone a strong-house was constructed at a considerable cost, into which the truck is run and locked securely, until the bullion is transferred to the steamer. An unsuccessful attempt has within the last few years been made to break open the truck-house at the Folkestone Harbour Station by a gang of burglars.

In 1855 the then secretary was dismissed and given two years' salary (£1,400) as compensation, and Mr. Smiles, the well-known author of the "Lives of the Engineers," "Character," "Thrift," etc., was appointed his successor; he filled the office for a number of years with great advantage to the Company. Mr. C. W. Eborall, of the East Lancashire Railway, was appointed general manager the same year as Mr. Smiles took office, and under these new officials the railway prospered.

In 1854 the direct line from near Guildford to Portsmouth was constructed, and the S.E. Railway was invited to work it, but the agreement with the Brighton Company precluded them from doing so, and the line was connected with the L. & S.W. system, which company has worked the direct Portsmouth line ever since. Again, in 1860, there was a great agitation at Eastbourne for another railway to that town, the inhabitants complaining that the Brighton line did not give them adequate accommodation. The outcome of this agitation was that an influential committee tried to induce the S.E. to construct a line to Eastbourne, it being urged that "the Eastbourne was the best paying traffic the

Brighton Company had, and in return that railway gave it the worst accommodation." This tempting offer also the S.E. had to refuse, in consequence of the before-mentioned agreement with the Brighton Railway. The profit from the railway service to this one town must be immense, as by an agreement dated March 29th, 1877, the S.E. is entitled to a share of the profits from the traffic, and for a year or so, some twelve years back, the S.E. used to run two trains each way (1st and 2nd class only) between London and Eastbourne, *via* Tunbridge Wells, from which place the trains ran on the Brighton Railway to Eastbourne; but after the service had been in operation for about a year it was withdrawn, and instead the L.B. & S.C. Railway now pay the South-Eastern a percentage of the receipts, usually amounting to the large sum of £29,000 a year, not to interfere with the Eastbourne traffic.

The opening of the extension from Strood to Maidstone, in June, 1856, necessitated the construction of additional rolling stock to carry the traffic, and £35,000 capital was raised for that purpose. The stock, we read, "was of a greatly improved description, particularly the third-class carriages." This same remark occurs each time any new carriages were built, and as at present the Company has some very inferior vehicles we must leave to the imagination the kind of carriages in use prior to their being "greatly improved" in 1856; and much of the "improved" rolling stock built in that year is still in use.

The traffic on the new branch lines was carried on at a great loss, for in the half-year to January, 1856, £27,000 was lost in working the Hastings branches, and £15,166 on the Reading line. We, at the present time, hardly think it possible that, considering the great differences in the distances by the three routes, there should have been any competition for the Reading traffic; yet the competition between the G.W., whose distance, London to Reading, is 36 miles, the L. & S.W., 43½ miles—the 6 miles 64 chains from Wokingham being on the S.E. system, and the S.E., with its 68½ miles, was very severe till on 14th June, 1858, when an agreement for three years was entered into between the three companies as to the division of the traffic, the G.W. undertaking to connect their narrow-gauge system at Reading with the S.E., and so give an impetus to through traffic. For some years through passenger coaches were run from Reading to Dover, Hastings, Margate, etc., but without much success.

The facing points of the original junction at Tunbridge with the Hastings branch were towards Paddock Wood, which necessitated through trains from London being shunted, and so caused delay, but in 1856 the present junction was con-

structed at a cost of £5,700. In that year the Company started a benefit fund for its employees, which has proved a great success, and now holds a foremost position among similar institutions. For the purpose of manufacturing the coke for the locomotives a supply of water was brought in iron pipes from Saltwood Tunnel to Folkestone, a distance of $4\frac{3}{4}$ miles. Up to 1856 the Company had provided a double tidal service between Folkestone and Boulogne, but in that year it was reduced to one trip each way. In that year the cost per engine mile run was only 8.7074d. In 1857 the Easter and Whitsun fairs at Greenwich were discontinued, and caused a diminution in the revenue of the railway. The Mid-Kent line, from Beckenham to Lewisham, was opened on 1st January, 1857, the S.E. working the line for 50 per cent. of the receipts. A new station was built at Lewisham for the accommodation of the traffic, where we can still see written up: "Lewisham junction *with* the Mid-Kent line." In 1857 Mr. Cudworth, the locomotive superintendent of the S.E. Railway, introduced the burning of coal instead of coke in the engines. This innovation was such a success that it speedily revolutionised the method of supplying the locomotives with fuel. Before this, railway companies were obliged to make the coal into coke before burning it in the engines, it being forbidden to use coal in consequence of the intolerable nuisance caused by the smoke; but Mr. Cudworth, by an ingenious arrangement of a sloping grate, a baffle plate, and brick arch, successfully solved the problem of a smoke consuming locomotive, and since then coal has been almost entirely used for locomotive fuel.

In 1859, the Company purchased the Caterham Branch (referred to previously), four miles five furlongs long, for £15,200. This line had cost the proprietors £40,000 to construct. It was proposed at one time to extend this line to Westerham and Maidstone, but no definite steps were taken to carry out the proposal.

In the same year new stations were opened at Wellington College, Belvedere, New Cross (North Kent), Plumstead, and Rotherhithe, bringing the total number up to 95. The Company now have 167 passenger stations in use, and some of the original ones have been closed.

Of these the platform of the disused Rotherhithe Station can be seen between Spa Road and Deptford. In 1859 the railway was connected with the Admiralty Pier at Dover, for the use of which the Company pay over £1,000 per annum.

In the report for 1859 the directors state that the number of passengers carried has increased 75 per cent. in 10 years. We have before mentioned the peculiar junction at Folkestone,

and as long ago as 1860 it was proposed to make a new and improved line to the harbour, but up to the present this has not been done, although the Company have obtained powers to make the necessary line from Folkestone Central.

The Postmaster-General, in his annual report for the year 1860, gives the S.E. Railway great credit for the excellent way in which the mail train service is conducted. He says:—"To afford relief in the London Circulation Office an acceleration has already been made in the night mail between London and Dover, by means of which the mail, although leaving London a quarter of an hour later than formerly, reaches Dover a quarter of an hour earlier, and what is yet more important, keeps its appointed time even at the higher speed with much greater regularity. The train, indeed, conveying this mail, is now the fastest and most regular mail train in the kingdom. Although the distance is 88 miles, it makes only one stoppage on the way, and completes the journey in two hours. The manner in which this service is worked is very creditable to the S.E. Railway."

Although the Postmaster only spoke of the night mails, there were similar up and down trains each morning.

On August 15th, 1861, the fares were greatly reduced all over the line, in consequence of the Chatham competition. The latter company carried passengers, London to Dover and back, for 2s. 6d., and the S.E. threatened to do so for 1s. each way. The reductions made the traffic returns some £1,500 per week less.

The following table shows how cheap the S.E. fares were then:—

South-Eastern :	1st class.	2nd class.	3rd class.
London to Marden, 51 miles	8s. 6d.	6s. 6d.	3s. 7d.
Eastern Counties :			
London to Colchester, 51½ miles	10s. 6d.	8s. 6d.	6s. 3d.

On January 1st, 1863, the fares to Greenwich were reduced, and although in the half-year 319,611 more passengers were conveyed to or from that place, the receipts were diminished £283. Not a very great inducement for reduction of fares from a shareholder's point of view, certainly.

In 1863 the line between Ramsgate and Margate was doubled, and the St. Lawrence loop made, at a total expense of £13,707. The S.E. Railway is very fond of making these Y junctions, and not using one side of the Y, this line at St. Lawrence only being used now and again for through excursions to Margate, except perhaps for turning engines instead of the turn-table; whilst a similar junction, constructed some 15 years back, connecting the Ramsgate line with the Deal branch, has never been used.

On 1st September, in this year, the L.C. & D. Company

bought the Mid-Kent line, between St. Mary Cray and Beckenham, and the S.E. trains ceased to work over that part, the latter company retaining the line from Beckenham Junction to Lewisham, and this line has since been extended to Addiscombe Road (Croydon), with branches, Elmers End to Hayes, 3 miles 29 chains, and Woodside to Selsdon Road, on the Oxted joint line, $2\frac{1}{4}$ miles in length.

When looking at a railway map it is surprising to find that only part of the lines which look so straight and direct are the original ones, other portions having been constructed at a later period; while what are really the original ones in many cases, seeming to be but branches from the new ones.

January 11th, 1864, marked an important epoch in the history of the S.E. Railway, as on that day the line from London Bridge to Charing Cross was opened for the Mid-Kent and Greenwich trains, but it was not till May that the whole of the traffic was worked to and from that station. This line, although only 1 mile 68 chains long, cost, with the land, £1,800,000 to construct. During the construction of the Charing Cross extension the Company determined upon a still bolder policy, viz., that of having a City station at Cannon Street, necessitated by the fact that the L.C. & D. Company had obtained powers to erect a City station at Holborn Viaduct. Consequently, another bridge over the Thames was necessary, thus making two expensive bridges in less than two miles of railway. The Cannon Street Station was opened in 1865, and increased by 60 chains the mileage of the line. The Cannon Street Bridge is the widest railway bridge in the world. The Charing Cross Bridge was widened four years ago, and the Cannon Street a year later; the latter now has ten sets of metals upon it, and is about 120 feet wide. The 2 miles 48 chains of line, London Bridge to Cannon Street and Charing Cross, has cost the Company altogether some four millions of money. The Hungerford Suspension Bridge had to be taken down to make room for the Charing Cross Railway Bridge, which was designed by Sir J. Hawkshaw, and cost £180,000 to build, but the brick piers of the suspension bridge were used to support the present bridge. A portion of the bridge, by the side of the railway, is reserved for foot passengers, who were formerly charged a toll of $\frac{1}{2}$ d. each, but now no charge is made for using the bridge. Originally, a part of the Cannon Street Bridge was similarly reserved for pedestrians, but this was closed some 14 or 15 years ago. When first opened, 264 trains arrived at, and 261 trains departed from, Cannon Street station daily. This traffic has grown so considerably that at present time nearly 1,000 arrive or depart from the station every 24 hours.

In 1866 seven bogie tank engines were constructed at a cost of £16,800, to work the traffic from Charing Cross to Cannon Street.

There was a station in the Blackfriars Road originally, but upon the opening of the Waterloo Junction Station on January 1st, 1867, the former station was closed. The Waterloo Station was constructed out of the revenue, no capital being raised for the purpose. Recently a Bill was introduced for the construction of a railway from Waterloo to Paddington. Strange to say, in 1869, an almost similar Bill was vigorously supported. It was called the Waterloo and Whitehall Railway, and it was proposed to carry the line in a tunnel under the river, directly beneath and parallel with the Charing Cross Railway Bridge, to be worked on the pneumatic system. Part of the line was actually constructed, and at the present time two immense iron tubes, through which the trains were to travel, are at the bottom of the river.

In 1864 the Company promoted a Bill to enable it to construct extensive docks at Deal, but like many schemes in the railway world it came to nothing.

The South-Eastern Railway has always been essentially a passenger line, for in 1892 (half-year to December), the passenger, etc., revenue amounted to £840,396 4s. 6d., and the goods only produced £317,575 0s. 1d. For the same period the passenger train miles run were 3,175,541, and goods only 881,610. But in 1864 its position as a passenger line was still more strongly marked, for it came fourth in the following table, while the length of the line next above it in the number of passenger vehicles is more than three times that of the South-Eastern.

RAILWAY.	Miles open (1864).	No. of Passenger vehicles.
L. & N.-W.	1,221	2,105
G.W.	1,005	1,249
N.E.	1,056	1,080
S.E.	306	1,015

While the three first lines in the above table serve many populous towns and districts, the S.E. serves but one—London—so that its passenger traffic to and from the Metropolis must have been—and still is—very considerable. We believe it still holds (considering its mileage) almost the premier position with regard to the number of its passenger coaches.

In 1865 a committee of investigation was appointed to inquire into the affairs of the Company, particularly as to the sale of a new steamer, "The Eugenie," which was sent to America for use as a blockade-runner.

The steamer "Albert Edward," which ran ashore near Cape Grisnez on 7th April, 1893, is also mentioned in this report ;

she was built by Samuda Bros., in 1862, and cost £20,370. She afterwards had her decks covered in to protect the passengers from the weather, but this experiment did not meet with success. The first portion of the Tunbridge direct line was opened to Chislehurst on 1st July, 1865. The construction of this line was delayed in consequence of the failure of the contractor. This line was opened throughout for goods traffic on 3rd February, 1868, four trains running each way, but it was not opened for passenger traffic until May 1st. Upon this line occurs the Sevenoaks Tunnel, over two miles in length, and the longest on the S.E.R. This line shortened the distance to all stations east of Tunbridge by 13 miles. The opening of a second, and nearer, route to Sevenoaks had the curious effect of raising the fares instead of lessening them. Thus, first-class by the Chatham route, 25 miles, was 4s. 6d.; when the S.E. opened their line (21 miles to London) both companies raised their first-class fare to London to 6s. 3d.

On August 10th, 1865, the celebrated "Continental Agreement" with the Chatham Company was entered into. Not only the Continental traffic to and from "London" via Dover, but also that via Folkestone, is brought into this joint account, into which is also carried the local traffic between those points. For the first year (1866) the Chatham Company received 36 per cent. of the receipts, and the S.E. Company 64 per cent. The proportions were year by year altered in favour of the Chatham Company until 1872, from which year and in perpetuity each company is to receive one-half. It was as to the interpretation of this agreement that the law-suits of the last ten years owed their origin, and under the final award the S.E. Company had to pay the L.C. & D. Company nearly £300,000.

In 1866 the S.E. and L. & N.W. Railway Companies promoted a Bill for a railway from Euston to Charing Cross, and the S.E. and L.C. & D. to Brighton via Lewes; but both lines failed to get constructed, although the royal assent was obtained for both measures, and a proposed S.E. line to Richmond and Kingston met with no better success.

The S.E. on 1st September, 1867, entered into a new arrangement with the Brighton Company, and abandoned their proposed joint line with the Chatham Company to Brighton in consequence of the latter company being in great financial difficulties, the creditors seizing the rolling stock. Under this new arrangement for a short period the Brighton Company's trains ran to and from Cannon Street Station.

In 1868 the S.E., L.B. & S.C., and L.C. & D. Railways promoted a Bill for the fusion of the three railways; it was,

however, withdrawn, as the S.E. would not agree to the Lords' amendment, requiring that Company to accept less sums than 1s. (first-class), 9d. (second-class), and 6d. (third-class), as a terminal charge, payable by the other companies for their passengers using Charing Cross Station.

On 1st September, 1868, the North Kent loop line (Lewisham to Dartford) was opened for traffic

In 1867 the railway from Calais to Boulogne was opened, and this of course made the prospects of the French traffic *via* Folkestone and Boulogne of a less roseate tint.

Although, in 1869, the Company was only bound to run 32 third-class trains per day on their system, yet 365 daily ran in and out of London alone. Of course, at this time, third-class by all trains was not common. From 1892 third-class passengers were conveyed by the night Continental mail trains, so that now the only trains not conveying third-class passengers are the supplementary Continental services. Third-class season tickets were issued on this line for years before other companies commenced to issue them, and several other lines have only done so when the second class was abolished.

In 1869 a plan of examining the tickets of passengers while the trains were in motion was inaugurated, and as much as £8 excess fares was collected in one afternoon. When Mr. Smiles left the Company Mr. Shaw was appointed secretary, and upon the retirement of Mr. Eborall Mr. Shaw undertook the duties of manager as well for some years, until Mr. Myles Fenton, the then manager of the Metropolitan Railway, was appointed general manager of the South-Eastern.

The following is a brief account of Sir Myles Fenton's railway career. In 1845 Mr. Fenton made his *début* in the railway world, by joining the Kendal and Windermere Railway. This line was shortly after absorbed in the L. & N.W. system.

His next position was in the passenger-superintendent's department of the East Lancashire Railway. Then he accepted a post in the General Manager's office of the Eastern Counties Railway. But Mr. Fenton soon received further advancement, for shortly after he was assistant to the divisional superintendent of the M.S. & L. Railway at Hull. The East Lancashire Railway again obtained the services of this rising railway official, as an assistant to the goods manager. A still more lucrative position was next offered him on the L. & S.W. Railway, and Mr. Fenton became chief assistant to the goods manager of the Southampton Railway. His immediate chief was shortly after appointed manager of the Rochdale Canal, and so invaluable had Mr. Fenton become to him that he prevailed upon him to forsake the railway and become chief

assistant to the Canal Company. But in 1854 his "early love," the East Lancashire Railway, for the third time obtained his assistance as secretary, and he remained with this railway until in 1859 it was amalgamated with the Lancashire and Yorkshire. In this large undertaking Mr. Fenton was assistant-manager, and when in 1862 the Metropolitan Railway directors were appointing their first manager, Mr. Fenton was offered and accepted that important position, which he filled for eighteen years with such success. While manager of the Metropolitan Railway Mr. Fenton introduced oil-gas as an illuminant for railway carriages; before doing so he spent some time in Berlin studying the system. Oil-gas lighting for trains is now almost universal, although we still find the antiquated oil lamp and some electric-lighted trains running. In 1880 the position of general manager of the South-Eastern Railway was offered to Sir Myles Fenton, the S.E. directors thereby clearly recognising the talents he possesses for the efficient management of a great railway. For fourteen years Sir Myles Fenton has filled this onerous position, and as he remarked to us, "The South-Eastern is the most difficult railway to manage," for there are several points of dissimilarity between the S.E. and other railways. "You see," said Sir Myles, "below London Bridge all our down trains run on one line, and yet on three lines we carry about as much traffic as the L. & S.W. Railway do on six from Waterloo; while into and out of Cannon Street Station we run nearly 1,000 trains daily, and all of these have to cross each other's course, and in 'No. 1' signal-box at that station over 27,000 movements of the levers are made every 24 hours." Sir Myles Fenton has had a longer experience of railway work than almost any other important railway official now living, and is, therefore, well qualified to control "the most difficult railway to manage." As a National recognition of his ability as a railway manager, the Queen conferred the honour of Knighthood on Sir Myles Fenton in 1888.

In 1869 this railway earned 7s. 4d. per train mile run, the profit on which was about 4s. per mile run.

On 31st January, 1870, the railway received from the Post Office £200,000 for the purchase of its telegraphs, and the short line connecting the Greenwich and Maze Hill Stations was constructed out of this money. By means of this line, which was not completed until some years later, a direct route was opened to Woolwich. The reason why it was not constructed many years before was the opposition of the officials at the Royal Observatory, who stated that the vibration caused by the trains would prevent accurate observations being taken. This same theory, two years ago, prevented the passing of

the Clapham and Paddington Electric Railway Bill, the proposed route of which went under the Imperial Institute at South Kensington, at which place astronomical observations are made.

The Franco-Prussian war caused the receipts from Continental traffic to diminish about £66,000 in the revenue returns for the latter half of 1870. For the year 1870 the working expenses of the S.E.R. were only 47 per cent., being the lowest of all the railways. The accounts for the first half of 1871 were only for five months, from February 1st to June 30th, thus equalising the Company's half-years with those of the almanac. During the war between France and Germany the Northern Railway of France lost one-third of its rolling stock, most of it being taken over the frontier by the victors, and never returned to the Northern Company, so the S.E. lent them twenty of their best carriages for the purpose of the London-Paris traffic. In 1872 the system of electrical communication between passenger, guard, and driver was invented by Mr. Walker, the then S.E. electrical engineer, who also inaugurated the block system as used on this line.

In 1873 this railway was running as many as 1,000 trains daily. The next extension opened was the Hythe and Sandgate branch, three miles long; this left the main line $1\frac{1}{4}$ miles from Westenhanger, and some six years back a station (Sandling Junction) was opened at the divergence.

Another scheme of fusion between the S.E. and Chatham Companies caused junctions to be constructed between the two lines at Blackfriars and Strood; the former gave the Midland and Great Northern direct access to the S.E., and a large through goods traffic is carried on between the South-Eastern and the other two companies; the S.E. also run a through passenger service to the G.N.R., by means of this junction; the S.E. trains stop at the Ludgate Hill and Snow Hill Stations of the Chatham Company, but passengers are not booked to them. The junction at Strood gave the S.E. access to Chatham, and provided through railway communication between the important Government depôts at Woolwich and Chatham, and on 1st March, 1892, the S.E. opened an extension of their own from Strood to Rochester and Chatham, so that at last they have got into the country east of the Medway. Had not the recently-concluded amicable arrangements between the South-Eastern and L.C. & D. been entered into, it is not at all unlikely that this branch would have been still further extended in the near future. The extension to Chatham was constructed for less money than it was estimated to cost—an almost unparalleled event in connection with the building of a railway. In 1880 the Railway Com-

missioners sought to compel the Railway Company to enlarge the Hastings Station, but the Queen's Bench decided in favour of the railway against the Commissioners.

The Westerham Valley line, a single branch, $4\frac{1}{2}$ miles long, was opened in 1881; the Act for this railway was originally obtained as long ago as 1865; and in that year leave was also obtained to build a line from Paddock Wood to Cranbrook, the first portion of which was opened September, 1892, to Goudhurst and throughout to Hawkhurst on 4th September, 1893. This is a single line, and is the only portion of the S.E.R. worked on Tyer's Electric Tablet System; the length of this branch is 6 miles $10\frac{1}{2}$ chains.

The line, Appledore to Lydd, 7 miles 6 chains, was opened in 1881; from Lydd are two branches, one to New Romney and the other to Dungeness, both nearly four miles in length. The same engine and train work both branches; in fact, the whole of the 16 miles between Appledore and the termini. The S.E. are now seeking Parliamentary powers to include the Lydd Railway Company in their own system. At Dungeness the Company have purchased a large tract of shingle, which is used to ballast the line; and it is proposed when all the shingle has been removed to let in the sea, and so form a natural deep-water dock. There is no station staff at Dungeness, the porter coming up by the train from Lydd and issuing tickets to the return passengers should there chance to be any.

The S.E. is part lessee of the East London Railway, and used to run a service of trains between Addiscombe Road and Liverpool Street (Great Eastern), *via* the Thames Tunnel. Special condensing engines, with very low funnels, had to be constructed to work this traffic. This service was withdrawn when the Inner Circle and Eastern Extension of the Metropolitan Railway was opened, as by means of these lines the latter company were enabled to run through to New Cross, S.E.R. The low funnel engines were then put on the through service to the G.N., which we have already mentioned, which had, prior to this, been worked by outside cylinder engines of the Metropolitan type, built by Beyer, Peacock, and Company; these engines the S.E.R. had hired pending the building of their own condensing locomotives. The Hundred of Hoo extension, a single line nearly 15 miles long, was opened in 1882; it branches from the North Kent, near Gravesend, and runs to Port Victoria on the Medway, opposite to Sheerness, communication with which is obtained by a steam-boat service. Some nine or ten years ago the tolls of Sheerness Pier were submitted by auction, and, of course, it was to the advantage of the S.E.R. to purchase them, since

their steamers from Port Victoria used that pier. Land has been acquired for extensive docks at Port Victoria, which is accessible at all states of the tide, and it is expected to become a large port for traffic, the delays and dangers of the Thames being thereby avoided. The Royal Family, when travelling to and from the North of Europe, always used this route, and it is most probable a new service to the Continent would have been inaugurated from Port Victoria, and so run in competition with the Chatham route, via Queensborough and Flushing, had not the two companies arranged their differences.

In 1883 the colour of the S.E. carriages was altered, the upper portion being painted the same colour as the rest of the body, a red-brown shade being used in place of the old shade of light salmon. The new locomotive engineer, Mr. Stirling, introduced the class of splendid express engines the Company now possess, with a leading bogie and 7ft. coupled driving and trailing wheels; he also abolished the steam dome, placing the safety-valve in its place on the boiler; the raised firebox, and the peculiar funnel with no rim also disappeared from the locomotives, while their colour was changed from olive green picked out with black bands and white lines, to black picked out with red. We are, however, glad to see that the engines are again being finished in the green colour.

The first portion of the Elham Valley line from Cheriton Junction on the main line near Shorncliffe was the next mileage added to the Company, while the Bromley direct line, 1½ miles long, branching from the main line at Grove Park, was opened a few years previously. The Elham Valley branch was continued through to Canterbury in July, 1889, thus opening a direct route between the important military centres of Canterbury and Shorncliffe, and forming, with the Deal and Dover joint S.E. and L.C. & D. railway, a complete circle of railways in East Kent.

Upon the death of the late secretary, Mr. J. Shaw, Mr. Stevens, the solicitor to the Company, who has been connected with the line all his life, undertook the joint offices of solicitor and secretary, which he fills with marked success.

Some travellers complain of the speed of S.E. trains, but we would remind them that there are many different items to be taken into consideration in comparing the average speed of trains. Thus, on the G.W.R. main line from London to Newton Abbott, with its freedom from curves and splendid gradients, we expect the express trains to average a high rate of speed for the whole distance. Now look at the disadvantages under which the S.E. trains labour. The down trains from St. John's to Halstead have an almost continuous climb for 11 miles, some of it less than 1 in 100, and the rest

Capital spent to 31st December, 1894, on construction of lines, etc., £24,891,930 1s. 3d.

The Bexley Heath Railway from Blackheath to Dartford is now constructed. The Company have also obtained Parliamentary powers for the following lines, but have not yet commenced to construct them:—Folkestone Central and Folkestone Harbour, Loose Valley and Headcorn, and Headcorn and Appledore.

The proposed line from Bricklayers' Arms to Charing Cross, with a loop toward Cannon Street, has been abandoned for the present.

The 56 miles 38 chains of single line is made up of the following branches:—Caterham, Whitstable, Westerham, Cranbrook, Hundred of Hoo, Appledore and Lydd, Lydd to New Romney, Lydd to Dungeness, East London Junction No. 1, East London Junction No. 2, and New Cross Station.

The simple vacuum brake was formerly in use on this railway, but it has now given place to the automatic vacuum, with which all vehicles are fitted, but some have the "simple" apparatus as well, which is removed as the stock is overhauled. For sending through to foreign lines, which use the Westinghouse brake, the S.E. have the following vehicles fitted with that system of pipes:

First-class saloons	2
" " carriages	1
Second-class saloons	2
" " carriages	2
Composite "	4
Third-class "	10
Passenger brake-vans	18
Coupe horse boxes	16
Covered carriage trucks	6
Open " "	8
Total vehicles.....	69

The locomotive and carriage works have been located at Ashford ever since the railway has been opened, and some 1,600 hands are here employed—three generations—grand-fathers, fathers, and sons working side by side. The Company have built a church and school for the convenience of their employees. Some few years ago an electro-plated carriage was built here, the only one of this style ever constructed for use on a railway, but the sulphurous fumes in conjunction with the atmosphere so discoloured it, that it has been painted the standard colour. Although at the time it was stated that the carriage would rattle, no unpleasantness occurs and no one would know it was a metal coach.

We hear many complaints against this line, and upon

analysing them we find that they rest on no very solid foundation; and such as these are can be classed under three heads, viz., unpunctuality, a tendency to quarrel, and inferior accommodation.

Dealing with unpunctuality, we find, according to a recent Board of Trade return, that the South-Eastern is the *most punctual* railway running into London. Taking the time of arrival at London Bridge (the head-quarters of the Company) as many as 76 per cent. of the trains arrived there in time, while the next highest average was 74 per cent., and the lowest 41 per cent., while (although we are not in a position to give the exact figures, as the return has not yet been officially declared) the S.E.R. comes out still better at the present time.

The S.E.R. maintains this high average in the face of enormous difficulties. For a distance of $2\frac{1}{2}$ miles below London Bridge the whole of its down trains (excepting those *via* Croydon) run on one pair of metals, and that is crossed *on the level* outside London Bridge by all the up trains on the Greenwich line, amounting to over 60 in 18 hours. The down trains number some 280 in the twenty-four hours, or an average of nearly 12 an hour during the whole of the day and night; and many of the down and up ones have to be stopped to cross each other, while a large number of the down ones call at Spa Road Station, which greatly complicates the working of the single down road, and necessitates a longer interval between the trains. During the busiest part of the afternoon as many as 126 trains cross the bridge at Cannon Street in two hours, each of which trains requires an average of 19 distinct operations to be performed upon the telegraph instruments, signalling apparatus, and points, or a total of 2,394 movements, done in No. 1 cabin by six signalmen, not counting the "booking" performed by three signal lads.

When we mentioned the question of punctuality to one of the highest officials of the line, and who has been connected with the Company for nearly 40 years, he replied: "Working our traffic is like pouring the contents of a barrel out of a bung-hole; time must be allowed to do it; only a certain quantity can get through in a given time, provided no interruption takes place; but the more delays there are the longer it takes."

"Why, then, do you not widen the line?" was our next question.

"We are doing so as occasion offers," remarked the official. "When we see a vacant strip of land along our route we purchase it, although it may not be of use just then; but it

is cheaper to buy when we can do so (if not built upon) than to wait till we require it, and then have to buy the building as well as the land. It seems to be the usual thing for the property owners to try and make a fortune out of the simple transaction of selling a house or a piece of land to a railway. Then, you see, we have enlarged and rebuilt the London Bridge Station without any interruption to the traffic—a truly wonderful feat considering our large traffic and cramped position.”

We then asked, “Why not have tunnels under, or an elevated track over, the present railway, and so cope with the extra traffic?”

“The former is almost impracticable, as we should have to go down deep enough to get below the public roads, and the gradients would be too severe; besides, the public do not like travelling in tunnels. The other method has been suggested, but the cost would be very great; the supports would require a good foundation on the virgin soil, and would have to be carried up to a height of some 16 feet above our present elevated permanent-way, and the gradient difficulty would arise as well. Our main object is not to make any extensions, but to widen our present means of reaching our London termini, and then to develop our system; and there is no reason why, in a few years, we shall not be as prosperous as our neighbours, the Brighton Line. They have been contented to discharge their passengers here (London Bridge), and the public appear satisfied; while (such is human nature) we, who have spent four millions of money to carry them on to Charing Cross and Cannon Street, are roundly abused for not doing more for the public.”

The fog fiend is another foe the S.E.R. have to contend with, and so careful is the management to prevent the possibility of an accident that an elaborately-arranged mode of working has been initiated, requiring a difference in the running of some 200 trains, which is put into operation on the system by the telegraphing of one word from the station-master at Cannon Street to the various points affected.

Coming to the second cause of complaint, as to the quarrels with its neighbours. These arise from the fact that the neighbours, particularly the little one, are always making fresh inroads into what the S.E. Company consider their own territory, and, as “self-preservation is the first law of nature,” the S.E.R. naturally defend their own to the best of their ability, although it must be confessed they have not done so to much purpose, as to-day the only places of any importance to which there is not an alternative route are Tunbridge and Folkestone.

The Chatham Company have year by year extended their system and sapped all the traffic of the S.E., and yet, with it all, the Chatham Company are as deep in the mire as ever; and so their deluded and dissatisfied shareholders raise the cry of "amalgamation," well knowing they have nothing to lose and much to gain at the expense of the South-Eastern Railway, which for the sake of peace are willing to enter into a working agreement, and so reduce the expenses of the two lines. Last year the Chatham introduced a Bill to amalgamate with the S.E., but it was not proceeded with. The Chatham chairman and the S.E. solicitor got to loggerheads, and the latter commenced an action against the former; but oil was poured on the troubled waters, and the matter arranged.

As our informant remarked, "The public say we should amalgamate with the Chatham, but we have nothing in common with that company; if we amalgamate at all, we consider it should be with our other neighbour, with whom we live in peace, and which have jointly with us twenty miles of common property in the line London Bridge to Redhill. Yet no one proposes that the L.B. & S.C. and S.E. should amalgamate, just because they do not quarrel.

Since this conversation took place the two Companies have entered into a new arrangement, which, it is hoped, will result in permanent peace between them.

Coming to the last of the three objections to the S.E.R., viz., the inferior accommodation provided. When we mention that this Company was the first railway to introduce the following important improvements we consider this objection in a great part answered. The improvements are: The burning of coal instead of coke in the locomotive (*i.e.*, an improved engine, consuming its own smoke), the block system of signalling, electrical communication between passenger and guard, eight-wheel passenger vehicles, and lavatory accommodation for second-class carriages.

The new first and third-class carriages are quite equal to those of other lines, while the second-class are much superior; all the new stock is fitted with the latest improvements, and lighted by gas.

It must be admitted that much of the old stock is inferior, but it is being improved as opportunity offers. Many of the older second and third-class bodies are built of teak, and the wood is in good condition; two of these bodies are joined together and form a seven-compartment third-class carriage on six wheels. We are not aware that any other company has any stock, on six wheels, capable of conveying 70 passengers. The S.E. has now several of these coaches. In conclusion

it should be taken into account that the S.E. is essentially a passenger line, and in past years was far in advance of other lines in the number of its carriages; it has as much rolling-stock as many other lines with four or five times its mileage; in fact, it stands about third for number of passenger vehicles, and this will, in a great measure, account for it having some inferior stock, since having so much of the old pattern (which, when worn out, is replaced by modern), while the other lines, which have so much modern rolling stock, have recently added it to cope with the increase of their traffic, and not to replace old-fashioned stock.

We should make as much allowance for the S.E.R. carriages as we should to a printer of a century back, who worked with a hand-press, when comparing his work with that produced to-day by an Ingle's "City," or other high-class printing machine.

The Company has already this year provided four new trains for the suburban traffic, each of which consists of 13 carriages—viz., six (1st and 2nd, four compartments) composites, five 3rd class (five compartments), and two 3rd class brakes (three compartments and guard); each coach is 27 feet long and eight feet wide. Total length of train, 366 feet; total weight (empty), 138 tons 4 cwt. 1 qr. Each train accommodates 72 first-class, 96 second-class, and 310 third-class passengers. Orders have been given for four more similar trains for delivering during the summer of 1895.

The doors are fitted with Kaye's wedge locks, with sliding handles for opening from the inside; they are further secured by spring safety catches. These trains are lighted by compressed oil gas, the first and second-class carriages are provided with "Coligny" shadowless burners, and the third-class light have special reflectors. This addition of 104 modern vehicles to the already large amount of passenger rolling stock owned by the S.E.R. is an earnest of the improvements for the convenience of travellers that the railway in future intends to provide for its patrons.

With a few years of peace with its little neighbour—now happily commenced—fine summers, and an improved agricultural outlook, together with the development of the South-Eastern coalfields (the Company have leased 3,000 acres of land from the Ecclesiastical Commissioners, from which they intend to win the coal), we shall find the South-Eastern Railway paying good dividends, holding a foremost position amongst our railways, and acting up to its proud motto, "Onward."

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